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for the

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A summary of the equipment obtained with this grant is discussed

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SUMMARY

The Microwave Remote Sensing Laboratory (MIRSL) at the University of Massachusetts has obtained the following equipment with the help of this ARO contract:

1. 1 HP 8510C Network Analyzer System, configured for measurements through 110 GHz. This system includes two synthesized sweepers (HP 83631A and 8341B). As a result of an upgrade, MIRSL also obtained a third 8341B for independent operation. This equipment is critical to current and future millimeter-wave sensor development in the laboratory.

   The network analyzer has been used in refurbishing a 35GHz FM CW radar and a 95GHz polarimeter. Both instruments will be used during the winter to make radar measurements of snow. During the Spring and Summer of 1992, the 95GHz instrument will be used to characterize the radar response of foliage and other natural targets.

2. 4 HP Model 382 Workstations. Three of these are configured for field operation, with 4 MBytes of RAM and a 200 Mbyte hard drive. Two of these are currently being utilized in MIRSL's 95 GHz Polarimeter systems, and a third for data analysis. The last computer, configured with 32 Mbytes of RAM, is used as the server of MIRSL's HP computer network. These computers are 4-5 times faster than their MIRSL predecessors, and are capable of running "stand alone" HP BASIC (Most MIRSL sensor systems use this language for their data acquisition and processing software).

   These new workstations have already proven themselves invaluable in field experiments. The increased speed of these computers permits processing of data in the field. This gives us an immediate indicator of the quality of our data resulting in improved measurements. The more compact packaging of the 382 workstations lends itself to situations where space and weight is at a premium such as aircraft installations.